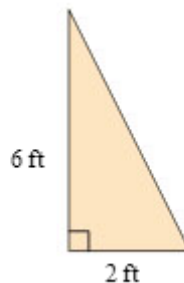


**PRACTICE TEST 5 - CHAPTER 10 & 11**

Beginning and Intermediate Algebra by Elayn Martin-Gay, 5th edition

1. Use the product rule to multiply:  $\sqrt{3x} \cdot \sqrt{2}$
2. Use the quotient rule to simplify:  $\sqrt{\frac{21}{100}}$
3. Use the quotient rule to simplify:  $\sqrt{\frac{2x^2}{49y^8}}$
4. Use the quotient rule to divide. Then simplify if possible:  $\frac{\sqrt[3]{250a^7}}{\sqrt[3]{2a}}$
5. Subtract the following radicals:  $10\sqrt{75} - 2\sqrt{28} - 2\sqrt{27}$
6. Multiply. Assume that all variables represent positive real numbers:  $(7\sqrt{x} - 7)(6\sqrt{x} - 4)$
7. Rationalize the denominator and simplify:  $\frac{2\sqrt{3}}{\sqrt{7}}$
8. Rationalize the denominator and simplify:  $\frac{2}{5 - \sqrt{10}}$
9. Solve the radical equation:  $\sqrt{4x - 3} = 5$
10. Solve the radical equation:  $\sqrt{5x - 4} - 2 = 2$
11. Solve the radical equation:  $\sqrt{11 - x} = x + 1$
12. Find the length of the unknown side of the triangle. State your answer in both simplified radical form as well as decimal form correct to two decimal places.



13. Simplify, using  $i$  notation as needed:  $\sqrt{-54}$
14. Add and write answer in  $a+bi$  form:  $(2-8i)+(9+5i)$
15. Multiply and write answer in  $a+bi$  form:  $5i(3-4i)$
16. Multiply and write answer in  $a+bi$  form:  $2i(5-8i)$
17. Multiply and write answer in  $a+bi$  form:  $(2-5i)^2$
18. Solve using the quadratic formula:  $x^2+5=6x$
19. Solve using the quadratic formula:  $x^2-6x+13=0$
20. Solve using the quadratic formula:  $2x^2+7x-4=0$
21. Solve using the quadratic formula:  $(x+4)(x+2)=7$
22. Find the vertex of the graph of this quadratic function:  $f(x)=x^2+2x-8$

### Practice Test 5 Chapter 10, 11 Answers

1.  $\sqrt{6x}$
2.  $\frac{\sqrt{21}}{10}$
3.  $\frac{x\sqrt{2}}{7y^4}$
4.  $15a^2$
5.  $44\sqrt{3} - 4\sqrt{7}$
6.  $42x - 70\sqrt{x} + 28$
7.  $\frac{2\sqrt{21}}{7}$
8.  $\frac{10 + 2\sqrt{10}}{15}$
9.  $x = 7$
10.  $x = 4$
11.  $x = 2$
12.  $2\sqrt{10}, 6.32$
13.  $3i\sqrt{6}$
14.  $11 - 3i$
15.  $20 + 15i$
16.  $16 + 10i$
17.  $-21 - 20i$
18.  $x = 1$  and  $x = 5$
19.  $x = 3 + 2i$  or  $x = 3 - 2i$
20.  $x = -4$  or  $x = \frac{1}{2}$
21.  $x = -3 + 2\sqrt{2}$  or  $x = -3 - 2\sqrt{2}$
22.  $(-1, -9)$